

Abstract

TOOL FOR MEASURING MAGNETIC PROPERTIES AT HIGH TEMPERATURES

The present invention relates to a measuring tool for measuring magnetic properties of a magnetic sample in a closed loop, comprising an electromagnet (1) in a closed loop arrangement with two pole pieces (3) connected to a yoke (2), said pole pieces (3) forming a gap (4) for the placement of the sample (5), a search coil (6) for the measurement of a flux density B of the sample (5) and a magnetic field sensor (7) for the measurement of a magnetic field strength H in the gap (4) between said pole pieces (3). The pole pieces (3) comprise heater elements (8) for heating the pole pieces (3) to temperatures of at least 400° C and are thermally insulated against the yoke (2) of the electromagnet (1). The pole pieces (3), the search coil (6) and the magnetic field sensor (7) are made of materials which resist said high temperatures.

The measuring tool allows the non-destructive measurement of magnetic properties of magnetic samples in closed circle up to 500 °C.